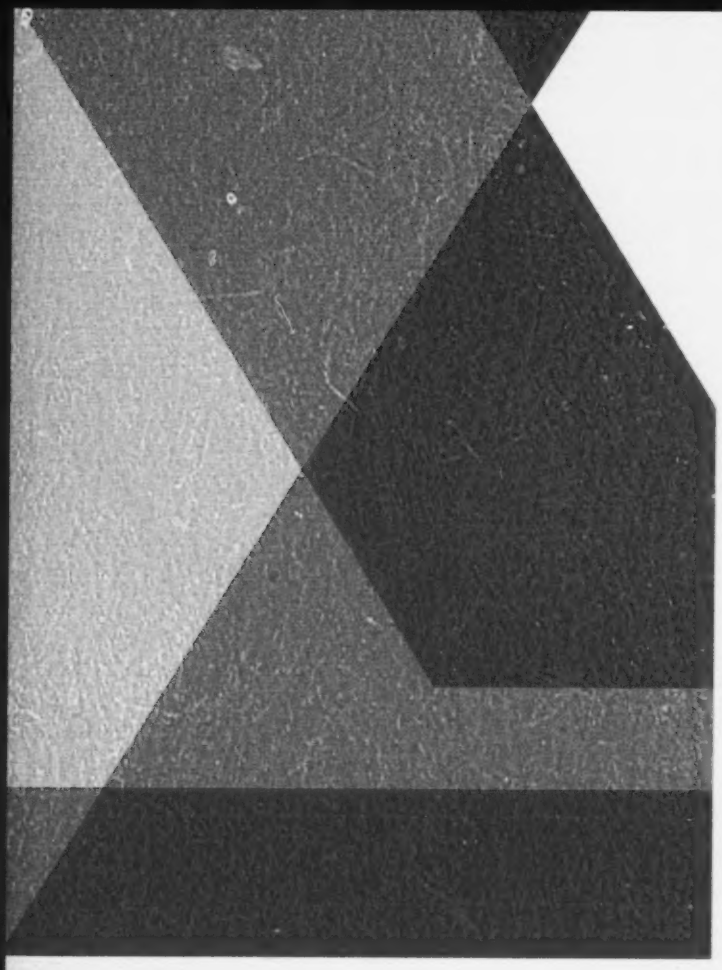

Business Plan

2018–19

Department of Energy

NOVA SCOTIA

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Budget 2018–19: Business Plan
March 2018

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Minister's Message

The challenges faced by Nova Scotia's energy sector have never been greater. This makes finding innovative solutions and capitalizing on our opportunities important. We need cleaner sources of energy to reduce emissions and fight climate change. At the same time, we know affordable energy is what drives job creation and inclusive economic growth across the province. That's why in the year ahead, Nova Scotia's Department of Energy remains committed to making the most of our resource potential in an efficient and sustainable way.

Petroleum resources continue to be vitally important to our energy future. BP Canada's and Statoil's offshore exploration, Alton's natural gas storage, and Pieridae and Bear Head's LNG projects all hold tremendous potential for our province. The Department of Energy continues to take the initiative by investing in geoscience research and sharing the results openly with industry. Work on phase two of the Offshore Growth Strategy will begin this year and continue for another four years. This will help us learn more about our resource potential, and increase our ability to attract major global companies to our offshore.

Increasingly, our opportunities are coming from renewable energy sources. No one in Atlantic Canada has installed more wind capacity than Nova Scotia. By this summer, a province-wide network of fast-charging stations will be in place for electric vehicles. In addition, solar panel installations will continue to grow as we enter the second year of the Solar for Community Buildings program. Capitalizing on our renewable opportunities is both creating prosperity and helping move Nova Scotia toward a cleaner energy future.

Tidal energy is one of the renewable resources that holds promise for clean energy and jobs in rural areas of the province. Government is working closely with industry and academia to ensure Nova Scotia stays at the forefront of tidal energy development. Our province is the first in Canada to have a clear path to development for these projects, with the Marine Renewable-energy Act and associated regulations now in effect. In the fall, we amended the Act to create a new stream of demonstration permits. These permits make it easier for developers to assess their ideas and bring new technologies to market faster.

The result of Nova Scotia's commitment to innovative energy solutions is that our province is a national leader in reducing greenhouse gas (GHG) emissions. We've already met the Canadian target of reducing emissions by 30 per cent below 2005 levels, and we're not stopping there. We are continuing efforts to reduce emissions in the electricity sector and the completion of the Maritime Link is key to this success. Nova Scotians are committed to fighting climate change and they should be proud of what they have achieved.

Much of Nova Scotia's progress on reducing emissions can be credited to our leadership on energy efficiency. Tens of thousands of Nova Scotians have reduced their energy use by installing heat pumps and extra insulation, and making other residential upgrades. As a result,

we've reduced our electrical load faster than any other Canadian province. Electricity ratepayers are saving $150 million per year on their bills through efficiency programs. Eligible participants in the HomeWarming program are saving an average of almost $1,000 every year on their oil heating bills. They're also reducing their emissions, and living more comfortably in their homes. With support from the federal government and our partners in industry, we will be able to expand this effort in 2018-19.

In the coming year, Department of Energy will continue to work to improve Nova Scotia's electricity system. Currently, ratepayers are in the middle of an unprecedented period of rate stability that will continue to 2020. Nova Scotia Power is also meeting performance standards for customer service, reliability and storm response. Our work will continue to look for ways to work with our Atlantic partners to strengthen our grid, add more innovation and keep electricity affordable into the future.

The Department of Energy has a busy 12 months ahead. We will continue the Connect2 program to invest in active transportation options in all corners of the province. Through the Energy Training Program and the Pengrowth-Nova Scotia Energy Scholarship, we will create more opportunities in the energy sector for our young people.

In 2018-19, we will build on our successes, and work to grow this sector in a way that benefits all Nova Scotians. Our work to move toward a cleaner energy future in a balanced, affordable and sustainable way will continue. I encourage you to find out more in our complete business plan.

Yours very truly,

Original signed by

Geoff MacLellan
Minister of Energy

Mandate and Platform Commitment

Mandate

1. Ensure electricity rate stability and reduce energy costs for low income individuals and families
2. Continue work on tidal and renewable energy
3. Reduce greenhouse gas emissions
4. Continue to develop the offshore growth strategy

Platform Commitment

5. Continue with enhancements to the non-electric, home energy efficiency program

2018-2019 Department Initiatives: Ministerial Mandate

The following initiatives are being undertaken by the Department in order to achieve the mandate above:

Regulate and Support Development of Tidal Energy

With the proclamation of the Marine Renewable-energy Act, the Province will work to develop policies and programs related to the development of this industry while working closely with other federal and provincial agencies to coordinate regulatory processes. Under the Marine Renewable Energy Strategy, the Province is continuing to work collaboratively with stakeholders and Nova Scotians to ensure the industry develops in a sustainable and responsible manner. The Province's approach is to focus on research, development, and regulatory initiatives that will enable deployments that benefit Nova Scotians. Funding and promoting advancements in technology, research, and data collection are critical to understanding the environmental, social, and economic impacts of tidal energy development.

Support the Development of Solar Energy

The province will work to develop solar policies and programs as well as work with industry and partner organizations to further the development of Solar Energy in Nova Scotia. Through deployment of solar, Nova Scotians can be given more choice in meeting their electricity needs, while also reducing greenhouse gas emissions and contributing to local jobs and economic activity.

Promote and Support Adoption of Alternative Transportation Fuel and Energy Options

The Department of Energy will work to develop policy and programs that support the transition to electric vehicles, including personal and commercial vehicles, public transit fleets and marine vessels. The Department will also support the deployment of other cleaner transportation fuels such as compressed natural gas and hydrogen.

Greenhouse Gas Emission Reduction

The Department of Energy is collaborating with departments and partners to achieve greenhouse gas emission reductions. This is a long-standing government objective and is consistent with obligations made under the Pan-Canadian Framework on Clean Growth and Climate Change (PCF) and the 'Canada-Nova Scotia equivalency agreement regarding greenhouse gas emissions from electricity producers'.

The Province will be able to access federal funding programs to support strategic investment in GHG emissions reduction programs and leverage significant private investment. This funding will be available starting in 2018-2019 to support programs that reduce GHG emissions. The funding will require program design, delivery, and evaluation, as well as matching provincial, municipal, First Nations, or private investment.

Offshore Growth Strategy

The Offshore Growth Strategy (OGS) is a long-term strategy which will help ensure the province has an offshore oil and gas industry and supply chain that contributes to the prosperity of Nova Scotia. The OGS is aimed at increasing investment in offshore exploration and building local capacity to ensure Nova Scotia companies are benefiting from opportunities. This can only occur by addressing the barriers that currently exist:

- Perception of risk due to complex geology
- Capacity and expertise for research in the province
- Ability of Nova Scotia companies to scale up for long-term opportunities
- Limited expertise within government to evaluate potential opportunities

Over the next four years, OGS Phase II will:

- build on geoscience research, with an updated Play Fairway Analysis completed;
- aim to attract new industry investment;
- establish local research capacity;
- develop a technical understanding within government of success scenarios and how to strategically align local strengths, capabilities and infrastructure; and
- ensure Nova Scotian companies are capable of capturing opportunities locally, regionally and internationally.

Efficiency Programming, non-electric homes

The Department will continue to review reporting on non-electric (e.g. furnace oil, wood, propane or natural gas) energy efficiency programs, delivered by Efficiency Nova Scotia on behalf of government. To ensure that assistance in reducing energy costs is provided to those who need it most, the HomeWarming program was designed specifically for low income Nova Scotians and will be continued this year.

In addition to program funding, the Department also supports the development of energy efficiency policies, including for energy efficient buildings, home energy products, and the electrification of the heating and transportation sectors.

2018-2019 Department Initiatives: Core Functions

In addition to the aforementioned, the following initiatives continue under the core functions of the Department:

Energy Training Program

The Energy Training Program develops the energy workforce in Nova Scotia by encouraging private sector employers to hire post-secondary students for career-related work terms. The program offers a wage subsidy for a term employment to employers hiring students and new graduates from Nova Scotia universities and community colleges. Employers benefit from a proven, cost-effective way to enhance short-term productivity and develop long-term recruiting solutions. Post-secondary students and recent graduates contribute to the energy industry while gaining valuable skills and experience that will enable them to become part of a highly skilled workforce in the energy sector.

Pengrowth-Nova Scotia Energy Scholarship Program

The Pengrowth-Nova Scotia Energy Scholarship Program offers funding to trades and technology, and university undergraduate and Master-level students throughout Nova Scotia to pursue energy-related studies. Since its inception, the program has supported more than 200 students and researchers with more than $1 million in funding. By providing scholarships to students pursuing energy-related studies at both universities and the Nova Scotia Community College, the Pengrowth-Nova Scotia Energy Scholarship Program helps students develop the skills and knowledge they need to become leaders in the energy sector.

Sustainable Transportation

The Department of Energy continues to deliver the grant program "Connect2", under the province's sustainable transportation strategy "Choose How You Move", as an innovative approach to advance active transportation connections. Connect2 is based on a vision that all trips under two kilometers to key community destinations in rural and urban areas of Nova Scotia could be made using sustainable modes of transportation. The program seeks to

support collaborative, innovative, and locally-based solutions to improving connectivity in rural and urban communities across Nova Scotia (e.g. hospitals, universities, schools, and business districts).

Joint Management of Offshore Petroleum Resources

Offshore oil and gas activity is jointly managed by the Province of Nova Scotia and the Government of Canada through legislation, regulation, and policy. The Department of Energy works with Natural Resources Canada and the Canada-Nova Scotia Offshore Petroleum Board to ensure that the exploration and development of Nova Scotia's offshore oil and gas resources are responsibly managed.

Work is continuing on the modernization of offshore regulations to ensure that we maintain rigorous standards for safety, environmental protection and management of resources. Work is also underway to ensure our companies are competitive and the offshore continues to contribute to the growth of the provincial economy.

Onshore Petroleum Administration

The Nova Scotia Department of Energy administers onshore petroleum rights as set out in the Petroleum Resources Act and Regulations. In 2018-2019, work will continue to modernize onshore oil and gas regulation to ensure that industry continues to use best practices, particularly as new technologies continue to be developed.

Liquefied Natural Gas (LNG)

Given the potential for economic benefits, the Department is supporting emerging opportunities related to LNG export and investment in Nova Scotia. Work will continue to examine the economics of additional development and exploration opportunities for natural gas prospects offshore. This analysis will be presented and discussed with investors, purchasers, pipeline companies, and gas suppliers.

Industry and Supply Chain Development

Recognizing that the energy sector is an important driver of economic activity in the province, the Department strives to optimize private sector business opportunities for Nova Scotian firms in the energy sector: oil and gas, marine renewables, and sustainable and renewable energy. Benefits are seen through local employment, expenditures for goods and services, building expertise and capacity in the supply chain to competitively capture international projects, and differentiating Nova Scotian product and service offerings through the commercialization of research. The Department gathers market intelligence and engages with project developers/operators to understand global supply chain opportunities, and works to build capacity among businesses to ensure they are well informed, able to respond to and compete for contracts, and leverage opportunities to build relationships with potential

clients, partners and suppliers. The Department will continue to work with industry to foster growth and build capacity in our supply chain to support success locally and globally.

Fiscal Management – Oil and Gas Royalties

The Department is responsible for monitoring energy projects to ensure appropriate economic benefits are collected from the development of offshore petroleum resources. The administration and auditing of oil and gas royalties and Crown Share Adjustment payments contributes millions of dollars directly to the provincial treasury. The Department ensures the province's royalty regime reflects modern best practice and strikes a balance between attracting investment and providing a fair return to Nova Scotians.

Financial Summary

Energy Expenses Summary
($ thousands)

Programs and Services	2017-2018 Estimate	2017-2018 Forecast	2018-2019 Estimate
Office of the Minister / Deputy Minister	401	384	460
Administrative Services	1,326	1,233	1,368
Sustainable & Renewable Energy	2,368	2,301	2,445
Business Development & Corporate Services	3,171	3,132	3,234
Petroleum Resources	3,713	15,519	1,855
Canada-Nova Scotia Offshore Petroleum Board	4,355	4,318	4,305
Clean Growth and Climate Change	13,670	26,011	17,795
Total - Departmental Expenses	**29,004**	**52,898**	**31,462**
Ordinary Recoveries	3,914	3,960	17,760
Funded Staff (# of FTEs)			
Department Funded Staff	**58.2**	**56.2**	**58.2**

Notes:

Ordinary Revenues: See Estimates and Supplementary Detail Book, Chapter 2